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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
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10/826,849

04/16/2004

Wayne Lewis

NMTECH16

2078

30996

7590

08/07/2007

ROBERT W. BECKER & ASSOCIATES

707 HIGHWAY 333

SUITE B

TIJERAS, NM 87059-7507

EXAMINER

ELDRED, JOHN W

ART UNIT

PAPER NUMBER

3641

MAIL DATE

DELIVERY MODE

08/07/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/826,849 | Applicant(s) LEWIS, WAYNE | |
| | Examiner J. Woodrow Eldred | Art Unit 3641 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,11 and 13-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6, 11, and 13-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Final Office Action mailed 2-7-07 is hereby rescinded and this Action issued.
2. The amendment filed 7-12-07 has been entered.
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 3 –6, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ravid et al (2004/0020353) in view of Gerber et al (4,665,794).

Ravid et al disclose an armor system comprising most claimed elements, including an aluminum plate (42), a plurality of circular aluminum tubes (36) attached to the plate, ceramic material (34) filling the tubes, and a second fiberglass layer (44) covering the circular tubes. Ravid et al fail to show the tubes arranged so that some tubes are not disposed against the supporting panel, but are disposed against the other tubes. Ravid et al also fail to show the tubes containing air (or any other of the alternative substances listed in claim 1.) Gerber et al teaches that it is known to have an armor system comprising ceramic tubes (column 1, line 54) attached to a panel in which some tubes are not disposed against the supporting panel, but are disposed against the other tubes. See, for example, Figures 1 and 4. Motivation to combine is the mere rearrangement of known elements to perform the same basic function, but with the attendant characteristics of the particular arrangement, which can provided desired performance in different situations. Gerber et al also teach to have the ceramic tubes filled with air. See for example column 3, lines 19-22 and the teachings of filling the interstitial spaces but no teaching of filling the tubes (such as in column 3, lines 27-33) and Figure 4 showing empty (i.e. air only) tubes. The mere substitution of known filling elements to get desired

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results, including different protection characteristics, weight, and cost is considered to have been obvious modifications with predictable results. To employ the teachings of Gerber et al on the armor of Ravid et al and have some tubes not in contact with the aluminum plate and the tubes filled with air is considered to have been obvious to one having ordinary skill in the art.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ravid et al (2004/0020353) in view of Gerber et al (4,665,794) as applied to claims 1, 3-6, and 11, and further in view of Dunn (5,349,893).

Ravid et al disclose an armor system comprising most claimed elements, including an aluminum plate (42), a plurality of circular aluminum tubes (36) attached to the plate, ceramic material (34) filling the tubes, and a second fiberglass layer (44) covering the circular tubes. Ravid et al fail to show that the system has ceramic tiles disposed on the aluminum panel opposite the tubes. Dunn teaches that it is well known to dispose ceramic tiles 21 on a panel 23, opposite a honeycomb array (i.e. polygonal sided tubes.) See Figure 3, for example. Motivation to combine is to improve performance by improving the impact resistance of the structure by addition of another layer of armor protection so that it can withstand more damage without failure in the event of an impact. To employ the teachings of Dunn on the system of Ravid et al and have ceramic tiles on the panel of Ravid et al is considered to have been obvious to one having ordinary skill in the art.

6. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ravid et al (2004/0020353) in view of Gerber et al (4,665,794) as applied to claims 1, 3-6, and 11, and further in view of Neal et al (6,745,661).

Ravid et al fail to show the structure being disposed in a fabric “sack”. Neal et al teach that it is well known to provide a high strength fiber “sack” 14 around panels. See especially column 3, lines 23-28. Motivation to combine is the further protection provided by an additional layer and the reduction of “fragmentation” taught by Neal et al. To employ the teachings of Neal et al on the system of Ravid et al and have a high

strength fabric sack is considered to have been obvious to one having ordinary skill in the art.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Woodrow Eldred whose telephone number is 571-272-6901. The examiner can normally be reached on Monday to Thursday, from 8:00 a.m. to 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/J. Woodrow Eldred/
Primary Examiner, Art Unit 3641

JWE